Frankly Speaking

Monuments or Memorials!

WORLD WAR I America changed its everyday habits—even working hours to promote its war effort.

In Washington, D. C., during the last war, according to a statement made by Mr. John A. Beeler before the Transit Convention in September 1940, many workers who preferred to ride to and from work were forced to walk and many were continually late on account of the inadequacy of transit service though every facility was strained to the limit. The streets were congested with vehicular traffic and even the sidewalks were crowded to overcrowding.

This was in the day before universal acceptance of the 8-hour day when industrial, store, and office employees worked at such different hours that there was a larger amount of natural staggering of hours. The tendency since the last war has been for workers to seek an 8:00 A.M. to 5:00 P.M. work day.

City Traffic Engineers would probably have been called City Transit or Public Service Engineers if the automobile had not diverted and eased most of this passenger load.

Community-wide staggering of hours was not a major concern of most traffic engineers in pre-Pearl Harbor days despite an impending industrial expansion of unprecedented proportions. Your Editorial Board recalls that staggering of hours was incorporated in the I.T.E. Defense Traffic Program of October 1941 but it took the December 1941 "incident" and the pace of the Axis attack in the following months to wake us up.

The enemy caught us off balance. They stole our rubber sources and they sank our tankers. We soon found ourselves frantically building not only blood banks for American boys but also building banks of fighting fuel for American tanks.

We have learned the bitter way that home-front miles saved are veritable Monuments to Victory—much more precious and monumental than *Post-War Memorials to our Dead!!!*

Leslie Williams

Editor, Traffic Engineering

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COMMUNITY TRANSPORTATION—A COLLECTIVE RESPONSIBILITY

by CHARLES GORDON

THE development and maintenance of an efficient and convenient local transportation system has always been a matter of major importance to the very existence of an urban community. This continued to be true even after automobile ownership and use became widespread. But prior to the outbreak of war great difficulty was experienced in enlisting the interest of various groups without whose cooperation little could be done in the solution of local transportation problems. Accordingly, discussion of the community's responsibility in connection with local transportation has been largely academic.

War has wrought great changes. Under its impact we have been appalled and mystified to find ourselves confronted with serious shortages in many products and services of which only a few years ago we had enormous surpluses. So too, in the vital field of transportation. In normal times we were blessed with a great abundance of all types of transportation, but within a year of the outbreak of war we find that a transportation shortage threatens to become one of our most acute problems. Nationally, its importance and seriousness is exceeded only by the need for critical materials and manpower. The transportation of the products of our mines, oil wells, farms and factories to the points where they are needed by both our armed forces and civilian population, has stretched the capacity of every available agency of transportation to the utmost limits. Someone has properly said that the production line starts—not within our factories—but at our farms, mines and homes from which materials and workers are first brought together. No greater single catastrophe could happen to our whole war effort than a serious breakdown in this vital transportation network.

The daily transportation of workers between their homes and places of employment has already become our No. 1 wartime *community* problem. My assignment here is to discuss the nature of this problem and the ways in which various groups in the community must participate in its solution if we are to avoid disruption of our war effort. I shall therefore first attempt to indicate briefly how the problem has developed. Then perhaps a brief picture of the present local transportation situation over the country and an outline of the requirements for meeting the emergency within the limits of available resources, will lead logically to pointing out the part which various groups within the community can and must play in this all important task.

The present shortage in community transportation facilities has resulted from the cumulative effect of two sets of factors, acting simultaneously on the local transportation industry—one general and the other specific. As will be quickly seen, both sets of factors are entirely war induced.

The four general developments are:

1. Increased employment.
2. Stoppage of automobile manufacture.
3. Loss of our natural rubber supply.
4. Difficulties in the transportation of fuel, particularly in the eastern area.

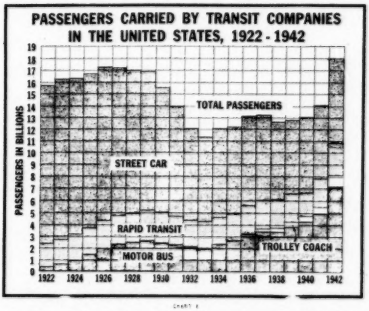
Each of these events or conditions stimulated increased riding on the local transportation lines of the country. This was literally the answer to the prayers of these companies over many

years. But unfortunately, just as this new traffic began to use public transport lines, the carriers encountered another set of factors which curtailed expansion of facilities and in some instances required actual reductions of former capacity. These additional factors are:

1. Inability to obtain new equipment.
2. Rapidly developing shortages in manpower.
3. The need for conserving rubber tires and fuel used in buses.
4. Shortages in repair parts.

Taken together, these are the major causes of the present situation in community transportation.

Chart I—Passengers Carried by Transit Companies in the United States 1922-1942



On this chart is shown graphically the volume of traffic handled by various types of public transit vehicles during the past two decades. The vertical distances in the dark shaded area at the bottom of the chart represent the number of passengers in *billions* carried by local motor buses in each of the years 1922 through 1942. The small white segments that appear next above, particularly toward the right of the chart, represent the number of passengers carried by electric trolley coaches. Next above in turn, shown by the lighter dotted section, is the traffic of rapid transit lines in the United States—elevated and subway—a large proportion of which is carried in the New York area. In the grey area at the top of the chart the vertical distances represent the number of passengers handled by street cars for each of the years shown.

Thus the line at the top of the chart represents the number of passengers carried by *all* local transit vehicles. The former all-time peak of traffic occurred in the year 1927 at a level of seventeen and a quarter *billion* passengers. During the depression total passengers dropped to a low of about eleven and a third billion in 1933. Then the volume of riding increased slightly and levelled off at an average of about thirteen billion passengers during the five years 1936-1940. From there on the traffic rose to approximately 18 billion passengers in 1942, an increase of nearly 30 percent over 1941, and a volume which exceeded by three-quarter of a billion the previous all-time peak of 17¼ billion in 1927. In 1943 it is estimated that the transit industry will carry 22 billion passengers, or exactly twice the traffic of the depression year 1933.

Please note that this is the equivalent of two rides per day for 300 days per year for approximately 37 million people. By comparison the total population of all cities of the United States of 25,000 and above is 54 million, and the total number of persons gainfully employed in the United States (omitting agricultural workers) is 42 million.

Unfortunately, data on the proportion of total workers in the country who travel by public vehicles is not available. But it is possible to arrive at a close approximation from the information we do have. Allowing two trips per day for 300 days a year for 42 million total workers, there would be required 25 billion, 200 million total trips per year *by all means of travel.*

The transit industry is now carrying traffic at the rate of 22 billion passengers per year. Approximately 75

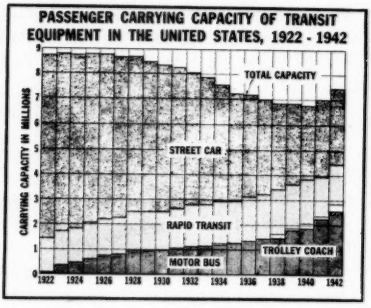
percent of this number, or 16,500,000,000 are revenue passenger trips representing complete one way journeys. Not all of these passengers are workers. They represent as well, school children, shoppers, business travel other than to and from work, and persons travelling for pleasure purposes. But approximately 50 percent of total transit traffic is carried during the rush hours morning and evening, and this may properly be assumed to be predominantly worker travel. This represents 8¼ billion trips. Of the other 50 percent of total transit traffic, at least 1/3 may be assumed to be worker travel, which together with the rush hour travel makes a total of about 11 billion worker trips per year carried on public transit vehicles.

This leaves about 14 billion, 200 million of the total of 25 billion, 200 million total worker trips to be provided by commuter train, bicycle, motorcycle, taxicab, walking and automobile. If a total of 3 billion, 200 million trips annually is allowed for all these other means of travel, this would leave 11 billion to be handled by automobile.

Thus it is evident that of the total of worker trips per year *about the same number travel by public transit as by automobile.*

During recent months certain surveys of worker travel methods at selected war production plants conducted by the U. S. Bureau of Public Roads, have been badly misinterpreted to show a very high proportion of total worker travel in automobiles. The surveys were not in any way a representative sample — nor presumably were they intended to be—from which general conclusions could be drawn. They were made almost exclusively in outlying plants or in small communities where reliance must necessarily be placed, largely upon automobile transportation.

Chart II—Passenger Carrying Capacity of Transit Equipment in the United States, 1922-1942



Returning to our picture of the present local transport situation, while the number of transit passengers carried in 1943 will exceed the previous all-time peak by almost 5 *billion* passengers, there has been no comparable increase in the number of available vehicles. Furthermore, due to the fact that buses of smaller capacity have replaced many street cars, the total carrying capacity of all transit vehicles owned today is substantially lower than the capacity of the vehicles owned in 1927. This chart, which covers the same period from 1922 through 1942 shows the total carrying capacity of all transit equipment in the United States. In this case the vertical distances on the chart show the maximum number of people that could be carried simultaneously on all of the equipment owned in the country. Note that this steadily decreased to the year 1940 and then, though total capacity increased in 1941 and 1942, the amount of the increase has been relatively small because of the limited transit vehicle production permitted during those years.

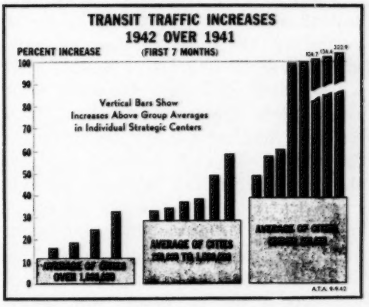
Even from this over-all picture it is readily apparent why we are experiencing a "*squeeze*" in local transport,

literally as well as figuratively. But the over-all picture, like all averages, gives no indication of the difficulty that is actually experienced in many individual war production areas. Increases in business activity and in population have ranged through very wide variations. In some small and medium-sized cities, for example, the current local transit load is six to seven times as great as in normal periods. In other communities the traffic has more than doubled in comparison with the preceding year. But in New York, on the other hand, total local transit traffic in 1942 was only 4 percent above the level of 1941, despite the fact that the number of automobiles on the streets of Manhattan has declined about 50 percent.

The variations in transit traffic are due to the joint effect of increased employment and population on the one hand, and the travel habits of people in cities of various sizes, on the other. That is to say, under normal conditions, the proportion of people who use automobiles for daily travel is greatest in small towns and least in the large cities. Even before the war, in New York, 75 percent of all the people entering that part of Manhattan Island south of 61st Street travelled by public transportation vehicles. Thus as war conditions have forced curtailed use of the automobile, the direct effect upon public transit travel has been greatest in small communities and least in the very large ones. At the same time the concurrent effect of large percentage increases in population and employment has been felt most in some of the smaller communities where war production or Army and Navy activity have been enormously expanded.

Chart III—Variations in Small and Large Cities

This variation in the impact of war conditions upon local transport as between groups of cities of different size, and between individual cities within each group, is strikingly illustrated in this chart. The vertical distances within the large grey rectangular areas represent the average percentage increase in transit riding during the first seven months of 1942 over the corresponding period of 1941 for cities over 1,000,000 population, 250,000 to 1,000,000 and under 250,000 respectively. The black bars above these grey areas indicate the extent to which the traffic in certain individual communities exceeded that of their group averages. Note that the black bars at the extreme right of the chart are broken because of space limitations and, therefore, do not fully indicate the actual percentage increases, which are shown in figures at the tops of the bars.



Now as to a program to keep community transportation functioning under wartime conditions:

First, and of paramount importance in meeting essential travel needs we must couple together effectively, the use of public transit facilities and the private automobile. Either type of transportation alone is inadequate. But when coupled together and controlled by policies designed to obtain maximum transportation capacity with minimum mileage and use of critical materials, there is reason to hope that we may surmount the difficulties ahead —though at best the margin will be small and we shall be forced to aban-

don all peace time standards of convenience and comfort.

Because of shortages of material, construction of new transit vehicles has lagged far behind the demand, for a period antedating Pearl Harbor by many months. Now only a trickle of equipment is being produced. For the year 1943 total construction authorized for the United States is 230 street cars, 75 trolley coaches and 1500 small size buses together with about 4,000 so-called adult bus bodies for civilian use. These latter are school bus type bodies mounted on truck chassis. Furthermore, because of difficulty in obtaining materials only a small part of this already very small authorization can possibly be completed much before the end of the year.

There is some irreducible minimum beyond which it is not safe to go in curtailing the construction of new public transit vehicles. I believe that we are now, and have been for some time, below this safe minimum. It is obvious that we cannot continue indefinitely to stretch existing facilities thinner and thinner, without providing at least for absolutely necessary replacements as available equipment gets older and is worked harder. Unless this situation is fully recognized the production of many war plants will suffer due to immobilizing their workers. The present policy being followed with respect to the construction of new transit equipment so far as I am advised, is not predicated upon any analysis of present or future local travel needs. It ignores specific recommendations of the Office of Defense Transportation which *has* made exhaustive studies. There is reason to believe that whatever consideration it has received has been limited to a "we'll get along somehow" attitude toward this vital question of local transportation.

Please do not misunderstand me. I am not advocating a large construction program for new transit vehicles. On the contrary, I am advocating only a very small program of new construction, such as has been recommended by the Office of Defense Transportation and other government agencies. My point is that even in the face of stringent material limitations there must be some continued construction if we are to avoid a catastrophe.

The assumption that the volume of this new construction can be kept small is based on the premise that the full cooperation of all groups in our communities can be enlisted toward the adoption of the policies and conservation measures announced by the Office of Defense Transportation as the means of stretching our available facilities to meet the vastly increased requirements.

Under executive orders of the President, the Office of Defense Transportation is charged with overall responsibility for guiding and directing the adaptation of the nation's domestic transportation facilities to the needs of the war—both the long distance movement of freight and passengers by rail, highway, water and air—and the local transportation of people and products within community areas. Fortunately, this very important Federal agency is directed by one of the country's most distinguished transportation authorities, the Hon. Joseph B. Eastman, Director of the Office of Defense Transportation. Mr. Eastman has in turn surrounded himself with a group of leading men in various branches of transportation and we are again fortunate in that the Division of Local Transport, covering all phases of *passenger* transportation with the exception of that by railroad and airlines, is headed by Mr. Guy A. Richardson, an outstanding leader in this field.

The whole program of the ODT in dealing with the local transport prob-

lem is covered by statements of policy which Mr. Eastman has issued, and by specific orders on some of its phases. As applied to public vehicles the purpose of the ODT has been to increase the efficiency of available facilities to a maximum and to shift them whenever possible from service offering mere convenience to that meeting actual needs—with preference to travel directly connected with the war.

At the very head of all the measures announced for increasing transit capacity without expenditure of any materials, is the staggering of industrial, business and school hours, so as to spread over a longer period the customary morning and afternoon peaks of local travel.

Coupled with the staggering of hours, the ODT program requires the most intensive possible use of street car and rapid transit lines and a corresponding reduction in the operation of rubber tired mileage on paralleling or duplicating routes to save rubber; reduction in the number of stops so as to carry more people faster with a given number of vehicles; reduction in the standard of service in off-peak hours; turning back a portion of the vehicles on long lines short of the outlying terminals; and prohibition of extensions to new residential areas. To carry out these policies, specific orders have been issued in a number of communities requiring definite changes in the routing and operation of transportation systems.

Similarly, the ODT has sought to limit the use of private automobiles to essential travel needs through such measures as the rationing of gasoline and the prohibition against pleasure driving which was in force in the eastern territory through the winter. Though the administration is handled by OPA, the policies upon which these measures are based, are originated by the ODT as part of its overall responsibility for all forms of domestic transportation.

In addition to conservation of automobile use, the most important measure sponsored by the ODT for utilizing *available* automobiles most efficiently is that of group riding.

In brief, this constitutes the program laid down by the ODT for surmounting our local transport difficulties. If sincerely carried out by all parties affected and supplemented by a conservative schedule of new public vehicle construction, there is every reason to believe that we can successfully meet the emergency and avoid an acute situation which would seriously interfere with our war effort.

Within this program two major measures stand out above all others: (1) The staggering of hours to permit vastly more efficient use of our public transportation systems, and (2) group riding in automobiles so as to get maximum utility from available private vehicles.

Both these measures are dependent for their effectiveness upon a very large degree of public cooperation. Both require changes in customs and habits of a great many individuals and groups to make them really effective. In some instances, considerable inconvenience and even real hardship are involved. But we shall all benefit as the need is fully understood. And it is primarily for that reason that we may properly say that community transportation today is a collective responsibility.

There are various channels through which the several groups concerned can participate. The ODT has wisely encouraged and sought from the beginning, the cooperation of local agencies. At the head of these stand the local War Transportation Committees named at the request of Mr. Eastman. With the establishment of a number of regional offices by the Local Transport Division of ODT, the prestige and effectiveness of these committees has been augmented by tying them in directly with the regional offices. It is

through these war transportation committees that community effort to stagger hours and to encourage group riding has been pushed forward.

The cooperation of employers as well as employees is essential to the adoption of both major community measures. The recently developed plan of organizing plant committees to promote group riding is a definite step forward.

Use of the community's police power in modifying traffic control to meet war-time conditions—including the control of parking to insure free flow of vehicles handling workers—is an essential factor of community participation in helping itself to overcome a collective problem.

The support of merchants, women's organizations, other civic groups, and school authorities is needed for the adoption of both staggered hours and group riding, and in addition, to reduce pleasure travel to a minimum and to keep as much indispensable travel as possible out of the peak hours.

And finally, perhaps the factor of paramount importance in overcoming the emergency that confronts us is patient tolerance on the part of all of us in accepting the inconveniences and annoyances that are the inevitable accompaniment of attempting to change the daily travel habits of large numbers of people.

By Charles Gordon, Managing Director, American Transit Association, before meeting of the Greater New York Safety Council, March 23, 1943.

TRAFFIC AND TRANSPORTATION SESSIONS

14th Annual New York Safety Convention

Session No. 1. Getting War Workers To and From the Job

CHAIRMAN HAROLD F. HAMMOND (National Conservation Bureau) presented Dr. Clement G. Bowers, Administrator, War Transportation Committee, Broome County, Binghamton, N. Y., who addressed the group on EMPLOYEE TRANSPORTATION—A WAR PLANT RESPONSIBILITY. A summary follows:

1. It is the Committee's duty to develop channels through which vital war transportation may continue to flow despite the curtailments of rubber, gas and equipment.

2. Management must assist employees in the transportation problem, and should not take the attitude that employees can and will work out their own means of getting to and from work. Management should do this from a cold business standpoint to avoid a possible transportation collapse.

3. The Community Transportation Committee, in order to gain and deserve the support of management, must have a reasonable and well planned program, *that is needed.*

4. No single method is universally applicable. The mechanics of getting employees to work is not only an engineering problem but it is largely one of human nature. The local situation must be studied carefully from this standpoint before setting up the program.

5. Management cannot afford to side-step the responsibility of active participation in the Community Transportation Committee's activities. Plant managers are infinitely better equipped than anyone else to make a transportation program dovetail with production, due to their understanding of the exact problems and limitations of production methods as related to transportation.

6. Management can expedite the work of rationing boards and save vast numbers of man-hours. To do this effectively, the plant transporta-

tion committee must be composed of high caliber men.

7. In Broome County, hilly topography, decentralized industries and residences, and relatively little public transportation (100 passenger buses for 160,000 persons), makes most employees dependent on private transportation. Thus our Committee faces a difficult problem.

8. We chose the ablest men available for our County Committee, irrespective of any organizations, professions or politics. We appointed the eight or ten men who were most vitally concerned with the local transportation problem and most of the local organizations and factions were unrepresented. Thus we were greatly helped in securing the acceptance of our broad program by the industries and by the community.

9. We soon had plant transportation committees, or at least chairmen, in practically every industry employing 20 or more, including 66 firms employing an aggregate of about 45,000 persons.

10. Certain principles in organizing and operating the County committee have guided us from the outset, some of these are—

(a) Do the job with people who are vitally interested.

(b) Get results and never mind who gets the credit.

(c) Keep main committees small enough to be workable.

(d) Get persons big enough to be free from community or neighborhood favoritism; ones whom everybody will respect.

(e) Our purpose is to help people have transportation, not to take it away from them.

(f) Real results, obtained quietly, leave a better taste in the mouth and stir up less trouble next time.

11. I appreciate that engineering studies are important, but in these war times, anything that works quickly and effectively is highly desirable, whether or not the engineering phases are perfected to the last degree.

12. In our situation, private transportation dominates the pattern, so staggering of hours has been effected only to a degree, from 6 to 9 A.M. and 3 to 6 P.M. Ride sharing, especially for those remote from bus lines might be badly disrupted if we staggered hours further.

13. Identical IBM cards are used by many of the industries, covering about three-fourths of the total employees. They can be tabulated interchangably if desired; however, it has been found better to let the various plants handle their own details and use our central administrator's office as a clearing house for problems. A complete general group riding tabulation of all employees for the County was not deemed necessary due to practical difficulties of maintaining the records in up-to-date form.

14. Plant Transportation Chairmen are unwilling to employ any form of coercion, to promote group riding, but this is not necessary if pressure is supplied by the rationing board.

Next, Dr. Bowers introduced Mr. Marvin T. Haney, Chairman of the employee transportation committee of Link Aviation Devices, Inc., (near Binghamton, N. Y.), who described the program undertaken at this plant. Briefly, his remarks were as follows:

1. We found that it was not possible to secure many changes in the bus lines to our plant to suit our needs, because of transit shortages. It became apparent that private automobiles would have to serve as our main means of transportation.

2. Our first action was to make a transportation questionnaire study. The completed forms were checked against the personnel records to insure 100% return.

3. Next we prepared a pin map of employee residences, and filed the questionnaire forms in eight sections, conforming to the major areas of residence.

4. We first tried to promote ride-sharing by posting lists for each area of those wanting and those offering rides. This did not produce results and we found that the better method involved personal contact by our plant committee members.

5. We placed "Change of Transportation" boxes at strategic points around the plant, which hold blank forms on which (a) requests for rides, (b) requests for riders, or (c) notification of changes in riding, are made by the employees. The completed forms are dropped into the box, and later picked up by the plant Committee for their use in promoting group riding and keeping the records up to date.

6. New employees fill out forms which go into the group-rides file. Once a month the personnel department's termination book is borrowed and all records of quitting employees pulled from the file. At this time, an attempt is made to fill the seats left vacant by terminating employee-passengers. "Drive Alones" are checked periodically to ascertain changes in status and to try to find riders for them. We frequently check field counts of car-occupancy against the occupancy indicated by the file to ascertain its accuracy.

7. At first the employees were inclined to view these activities with amusement, but as rationing tightened, they began to respect the Committee and cooperate with few exceptions.

8. Our plant transportation committee handles applications for bicycles, shoes, and other items besides gasoline and rubber.

A question and answer period followed Mr. Haney's talk in which the audience, the Chairman and speakers, and a special panel of experts participated. The panel members were: Robert C. Georger, Director, New York State War Transportation Committee; H. L. Harter, Sperry Gyroscope Company, Great Neck, L. I.; T. M. Matson, Director of Yale Bureau for Street Traffic Research; Major Fred C. Taylor, Highway Division, Army Transportation Corps; and E. F. Van Horne, Administrator of War Transportation for Delaware County, Bendix Aviation Corp., Sidney, N. Y. A number of the questions and answers are summarized in the following:

Q.: What do you think is a good figure of car-occupancy?

Panel Members: The answers ranged from 3 to 3.5 persons per-car. It was generally agreed that the goal should be the average car capacity, or around 4.5, though local conditions would dictate whether or not this figure could possibly be attained.

Q.: Have any car-occupancy studies been made, differentiating between A, B, or C book holders?

Mr. Matson: Studies in Michigan showed "A" cars averaging 1.9, "B" cars averaging 2.3, and "C" cars running at higher figures. It must be recognized that drivers living close to the plant, with A cards will not have many passengers.

Dr. Bowers: We made one spot check which showed A drivers with more riders than B drivers, though this was a peculiar condition due to the scattered residences of the B drivers who couldn't find passengers.

Mr. Hammond: In most instances the figures for entering shifts and leaving shifts differ, therefore it makes a difference when counts are made, especially for purposes of comparison. Also the location of the count is important, since departing cars may be picking up riders after passing the checking point, or (vice-versa) may be discharging passengers before being counted when coming to the plant.

Q.: What is the most important single factor in the success of group riding?

Mr. Matson: It is the human factor. The amount of inconvenience the employee must undergo to share rides, as

well as the amount of pressure brought on him to encourage ride sharing, compete against each other in producing failure or success of the group riding program. Rationing requirements of gas and tires requiring ride sharing has proven, I think, the greater successful pressure on the employee than personal contact and selling by plant committees.

Q.: In connection with group riding, what about insurance liability of the employer?

Mr. Hammond: This has been brought up in states and taken through the courts. The California Supreme Court ruled that the plant was not liable in case it helped promote ride sharing and an accident occurred involving a car used by ride sharing employees. In other states plants are very cautious. All they give the employees is the names of the riders or where they can find riders and they let the employees work it out themselves. Other plants are taking no chances and have group policies to be doubly sure. I know insurance companies have placed before the War Department a special policy which will be effective only for the cars operating in group rides going to and from the plant. This plan will make it possible for those not carrying insurance to obtain insurance at a reasonable rate. I know that in Canada this is handled through the plant.

Q.: Do any plants subsidize repairs and maintenance of employee cars? Should plants actually promote preventive maintenance?

Major Taylor: Several plants operating under contract to the War Department are providing inspectional service. Some inspect tires. One plant provides complete inspection through a private garage, but doesn't do any of the garage work.

Mr. Harter: The maintenance of passenger cars is a problem confronting many of our employees at Sperry Gyroscope Company. Most of them work during the hours when service stations are open. We have worked out a system whereby they may have their cars picked up early in the morning, serviced, and returned at night with no time lost. They work during the hours their cars are being serviced. Arrangements were made with an outside garage.

Q.: What experience has been found in providing Federal Housing or barracks at the plant to solve employee transportation difficulties?

Mr. Harter: We asked the Government about this, but were turned down flat! This was because we had not made a study of staggering our hours.

Q.: What is being done about providing terminals for buses and parking facilities at war plants?

Mr. Matson: Many plants have not recognized this problem of terminal facilities, and are suffering as a result. This is especially true of old plants. However, in some new plants, hazards and congestion have been prevented by making provision for proper transit terminals and parking lots when building the plant.

Mr. Georger: I know of one case where elimination of terminal congestion would give the equivalent of two more buses to the plant.

Mr. Matson: The parking and transit terminals are important to the plant from an employment standpoint. An employee won't spend more than an hour commuting, so if a half hour is wasted in congestion at or near the plant, the drawing area for employees is thereby limited.

Q.: Major Taylor, what is the Army Transportation Corps doing to help the employee transportation situation?

Major Taylor: The Corps is assisting manufacturers with Army contracts by reimbursing them for expense incurred in the operation of employee transportation departments. The Army recognizes that as the problem becomes

more serious, only plants with the most effective transportation programs will be able to cope with the problem in the next year and a half.

Q.: What is a fair cost for a manufacturer to put in for expense of operating the employee transportation department?

Major Taylor: The Army has set no fixed sum. They want the plants to do an adequate job, and will pay for it. A figure of $3.00 per employee has been cited, but if it takes $10.00 to do a good job, that's acceptable.

Q.: Does the Navy also help on transportation expenses?

Major Taylor: Yes, they have their own arrangements too. Where a plant holds dual contracts, we assume part and the Navy assumes part of the transportation costs.

Q.: What do you consider an adequate number of persons to handle a good transportation plan for a plant.

Major Taylor: One person per 1,000 employees.

Q.: What will be done with rationing to promote preventive maintenance? Will something be done so people will be forced to take care of their cars properly?

Mr. Matson: I can't answer that question, but I agree that transit will be hard hit in the not too far distant future unless a widespread preventive maintenance program is gotten under way.

Mr. Hammond: OPA has recognized this fact, and is now considering means of dealing with the problem.

Session No. 2. The Community Meets The Transportation Challenge

The Chairman, P. N. Simmons, Assistant Director, Division of Local Transport, ODT, with a few preliminary remarks, introduced Charles Gordon, Managing Director of the American Transit Association, who spoke on the subject of COMMUNITY TRANSPORTATION. His talk appears elsewhere in this publication, as a separate article.

Robert A. Mitchell, Transportation Director, Philadelphia Metropolitan War Transportation Committee, discussed the subject of COMMUNITY ORGANIZATION, summarized as follows:

1. The City Mayor should be selected to head up the community transportation committee, as ex-officio chairman, and to appoint an Administrator. The reason for giving the Mayor this position is in order to minimize jealousies and selfish interests.

2. The Administrator should be well known, properly trained (preferably in engineering), having experience or demonstrated interest in transportation, but with no connection with the local transit company.

3. The Mayor and Administrator should appoint the Community War Transportation Committee, who should be prominent people representing important groups.

4. The interests represented should include: Public transportation, Business, Industry, Labor, Schools, Local Government, and the Local Traffic Control Authority.

5. Under each representative interest, there might well be a sub-committee of men representing different elements of that interest.

6. In Philadelphia there was developed a Metropolitan Committee of Administrators from different areas, coordinating activities of various community organizations.

7. The Philadelphia Committee obtained free space and CDVO assistance. Supplies were donated, and the School Board handled the distribution of group-riding questionnaires. $15,000 was appropriated finally for the Committee.

8. It is very important to have regular meetings, so members will keep the dates open. Each member should have an alternate.

Walter Carr, Vice-President of the Connecticut Railway and Lighting Company of Bridgeport, Conn., next

treated the timely subject of STAGGERED HOURS. Briefly, he said:

1. Staggered Hours has two phases —planning and execution. It is wise to plan the staggering in small steps, to change people's habits as little as possible. The execution should include a sufficient period (months) to properly sell the program before actual changing of hours.

2. The Bridgeport plan went into effect last Labor Day, two months after planning was completed, to allow selling the program.

3. Bridgeport has 290,000 population, 24% over 1940 census. Industrial workers totaled 92,000 as compared to 30,000 in 1939. Traffic has jumped from an index of 100 in 1939 to 274 for February, 1943.

4. In the afternoon peak, there were 33 more vehicles needed in our system than in the morning peak. After staggering, this difference was only 13.

5. Comparing "before" and "after" figures (staggering), in December 1942, after staggering, there were 2% less bus miles, 10% less buses, but 14% more passengers hauled during the peaks than in July 1942. In January 1943 there were 9% more bus miles, 6¼% less buses and 61% more passengers hauled than during January 1942.

Henry W. Osborne, Buffalo City Traffic Engineer, was next introduced, and his talk on "SHARE-THE-RIDE" is summarized as follows:

1. There are three categories in group riding; industrial workers, central business district employees, and all others (shoppers, etc.)

2. In Buffalo industries, where 120,000 employees are in vital war production (130% increase in 2 years), 65 to 95% use private transportation. It is easier to promote group riding among these workers than in the other two groups. Bell Aircraft shows an occupancy ratio of 2.8 persons per car.

3. In the second group in Buffalo, only 27% use private transportation and 7% walk. To put additional pressure on this group to increase group riding would be wasteful, in terms of results obtained. Additional efforts should be rather directed at industrial workers. Hints of less restrictions on rubber and gasoline have adversely affected the downtown group riding program.

4. The third group can be made to share rides and conserve rubber mainly through publicity. Neighborhood ride-sharing bureaus are not too effective.

5. Where public transit overloading offers the biggest problem, the staggered hours program must be given preference, and a master plan set up in which minor adjustments may then be in order to assist group riding.

Kenneth M. Hoover, Assistant to the Vice-President, Operation, Philadelphia Transit Company, spoke on TRANSIT CONTRIBUTIONS; a condensation follows:

1. The transit problem is a common cause, and needs contributions of help from all sides.

2. One of the best contributions came when ODT began hiring men from the transit industry. ODT directives saved 68 million inter-city bus miles.

3. Over 2000 antique buses and street cars returned to service have caused parts and maintenance problems in face of the shortage in mechanics.

4. The greatest contribution to transit has come from public minded citizens serving on committees.

Next Hawley Simpson of the American Transit Association spoke on WARTIME TRAFFIC CONTROL. Briefly summarized, his talk was as follows:

1. Staggered hours and group riding programs must be aided by changes in traffic control devices to fit the changed conditions.

2. ODT has issued a 12 point pol-

icy, "Fitting Traffic Control to Wartime," which is a practical and invaluable guide in fitting signs and signals to the new traffic conditions.

3. In the first six weeks since publication of this 12 point policy, the effect has been as follows: (taken from newspaper clippings).

a. Michigan has ordered discontinuing ¼ of the 865 traffic signal installations on State Highways.

b. Trenton, N. J. has restricted operation of 46 signal installations and discontinued 1 out of 60.

c. Philadelphia has restricted 40 signal installations and 260 others probably will be altered.

d. Los Angeles is seriously considering discontinuing 48 signalized intersections.

e. Chicago has retimed 38 signal installations and plans to restrict operation at 82 other intersections. 200 of 720 total will be affected ultimately.

f. Detroit reports that 10% of the 663 signalized intersections will be eliminated.

g. Atlantic City has eliminated all signals during day.

h. Washington, D. C. has eliminated 13 signal installations.

i. Newark, N. J. restricted 204 out of 250 signals, eliminating 15.

j. Baltimore is to eliminate or alter operation of 65 of the total of 431 signals.

k. Nashville, Tenn. has eliminated 42 out of 110 signals.

l. Fall River has turned all six signal installations to flashing.

m. Ft. Worth, Texas timed their signals alternately for 18 mph.

n. Toledo, Ohio is planning to time their signals alternately for 18 mph.

o. Clayton, Mo. eliminated 40 stop signs at 26 intersections. Not a single accident occurred at any of these junctions after removal of the signs.

p. St. Louis, Mo. is planning to eliminate 56 stop signs.

q. Charlotte, N. C. is replacing 160 stop signs by caution signs. Some signals have been restricted.

r. Milwaukee has removed stop signs at two intersections and is considering discontinuing signals at 11 intersections. Nineteen other signal installations are being studied now.

s. Thirteen other cities are studying their signs and signals with a view toward adjusting them to the new war conditions.

The following questions and answers are some that were included in the round table discussion following Mr. Simpson's talk.

Q.: What can be done by a Public Transit Company to help offset the problems of manpower and parts shortage?

Mr. Carr: In Bridgeport, we are hiring women to help operate and maintain our equipment. Eight drove through the winter successfully, and four more will be driving shortly. We have no critical parts shortage, however we often rob one vehicle to supply another.

Mr. Simmons: ODT has helped form Maintenance Advisory Committees in every sizable city which work with the Division of Motor Transport and should be contacted to help expedite delivery of parts or allocation of materials by WPB. The Virginia Electric Power Company employs women bus drivers too. They plan to employ women also to replace car-cleaners, who in turn will be elevated to repairmen.

Q.: How can a common carrier obtain new equipment?

Simmons: Only 1500 city-type buses are to be manufactured this year, as compared to 9,200 last year, so there is a real shortage of buses. On integral type buses, place your order first with the manufacturer and see if he can supply you. If he can, then apply to ODT for permission to buy the equipment. Naturally this permission will be given only where a company can show real need, and

where everything possible has been done on staggering of hours and group riding.

Q.: Won't removal of traffic signals and stop signs as advised by ODT cause traffic hazards?

Simpson: No! The 12-point policy does not indicate changing signals or signs where traffic warrants such controls. A resurvey of the necessity for these devices is in order, now that traffic characteristics are so greatly changed, and all signals and signs not warranted should be eliminated, or altered. This should result in greater safety, as unwarranted control devices are definitely a hazard, as well as gasoline and rubber wasters.

Q.: We have secured a new bus line to our plant, but our employees won't use it. At the same time, our car occupancy is low, and there is no reason why all our workers can't be carried via private cars. Would it be a good idea to concentrate on group riding, and discontinue the bus line?

Simmons: Yes! I want to make this further statement about public versus private transportation.

The decision as to whether to give preference to group riding or staggered hours should be based on the needs of the area. In areas of heavy bus riding, very probably further staggering will be needed. But in areas depending largely on private transportation, group riding should be encouraged.

The greatest shortage now is in public transit equipment and tires, which must be of first grade rubber. It is relatively easier to keep private cars rolling on reclaimed rubber. Hence, where public carrier loads are critical, don't hesitate to inconvenience group riding a little by staggering hours.

A digest of the Traffic and Transportation Sessions on March 23rd at the 14th Annual Safety Convention and Exposition in New York, conducted by the Greater New York Safety Council in cooperation with the Institute of Traffic Engineers. This was prepared by Associate Editor Henry K. Evans.

ODT POLICIES ON WARTIME TRAFFIC CONTROL

1. *Elimination of Unnecessary Signals*—The operation of traffic signals should be discontinued where traffic falls below these accepted minimum standards:

(a) Total traffic entering the intersection from all directions should average at least 1,000 vehicles an hour for 8 hours a day, of which at least 250 enter from the minor street, or

(b) Pedestrians crossing the major street should average at least 300 an hour for at least 6 hours a day, and vehicles entering the intersection from the major street should average at least 750 an hour for the same 6 hours.

No signal should be eliminated, however, which is an essential part of a coordinated system for expediting traffic, or if an extraordinary accident hazard would result. Discontinued signals should be removed, hooded or operated as flashing lights.

2. *Flashing Lights*—A traffic signal justified for STOP and GO operation during part of the day should, however, be operated as a flashing signal when, for a period of four or more consecutive hours, traffic falls below 500 vehicles an hour, or in the case of a pedestrian protection signal, below 375 vehicles an hour on the major street or 150 pedestrians an hour crossing the major street.

3. *Shortened Signal Cycles*—Signal cycles should be as short as possible. At the usual intersection, cycles of from 35 to 50 seconds should be enough. Slightly longer cycles may be desirable in coordinated systems where block lengths are irregular, or at unusually complicated intersections, or

to expedite buses, street cars or trucks.

4. *Adjustment of Green Period*—The proportion of the cycle devoted to the green period should conform to the relative volume of traffic per lane on each street, except that special consideration should be given to buses, street cars and trucks.

5. *Timing Variations*—Where traffic volume fluctuates widely during the day, cycle length or the division of the cycle should be altered at the appropriate times to fit the changed conditions.

6. *Progressive Signal Operation*—Fixed time signals within one-quarter mile of one another, and controlling the same roadway, should be coordinated to provide progressive traffic movement and reduce the number of vehicle stops.

7. *Traffic Police*—Assignments of traffic police to fixed posts should make most effective use of manpower. Traffic police should not be assigned to signalized intersections except where pedestrians or turning vehicles are unusually numerous.

8. *Police Control of Traffic Movement*—Traffic officers should keep their STOP and GO periods as short as possible to reduce delays. When special circumstances require an officer to control traffic at the center of a signalized intersection, signal lights should be turned off.

Special effort should be made to expedite buses, street cars and trucks on routes serving war plants.

9. *Elimination of Unnecessary Stop Signs*—Stop signs should be removed except from locations where warning signs would be inadequate, such as at intersections where greatly restricted view or accident records indicate a need, at intersections along a legally designated "through" street or highway, and at railroad crossings where a stop is required by law.

10. *Traffic Regulations*—Traffic regulations, such as those governing turning restrictions, through streets and parking should be reviewed and revised to expedite vehicle movements where the war has either increased or decreased traffic.

11. *War Transportation Routes*—A system of primary war transportation routes, to which preferred traffic control treatment would be given, should be designated in every municipality. Such routes should consider the needs of both workers and vehicles carrying war materials.

12. *Traffic Control Equipment*—Traffic control equipment requires critical materials. Therefore every effort must be exerted to use most effectively the equipment already on hand before applying to Government agencies for assistance in the purchase of new equipment.

JOSEPH B. EASTMAN, *Director*
Office of Defense Transportation

See: Wartime Emergency Edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, published Nov. 1942. Write Public Roads Administration, Washington, D. C. for copies.

MID-WEST EMPLOYEE TRANSPORTATION CONFERENCE

The second of a series of Regional Wartime Conferences on Employee Transportation, conducted under the sponsorship of the Office of Defense Transportation, will be held in Chicago May 26.

Plant employee transportation managers and other plant executives from ten mid-western states will attend the all-day affair. The general topic of the morning session will be "Keeping Employee Cars Running," while "Solving Special Employee Transportation Problems" will be discussed at the afternoon session. There will be a group luncheon at which a nationally prominent transportation authority will speak on the subject, "The Employee Transportation Outlook for 1943."